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Teachers' Emotions and Teaching: A Review of the Literature and Directions for Future Research

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The purpose of this study is to review the limited literature on the emotional aspects of teachers' lives. First, a multicomponential perspective on emotions is described, then the existing literature on teachers' positive and negative emotions is reviewed and critiqued. Next is a summary of the literature suggesting that teachers' emotions influence teachers' and students' cognitions, motivation, and behaviors. Four areas for future research are proposed: management and discipline, adoption and use of teaching strategies, learning to teach, and teachers' motivation. An overview of research methods used in a multicomponential perspective on emotions is provided. This review draws on a variety of research literatures: educational psychology, social and personality psychology, educational sociology, and research on teachers and teaching.

KEY WORDS: emotions; teachers; motivation; learning to teach.

There is surprisingly little recent research about the emotional aspects of teachers' lives. For example, the two chapters focusing on teachers in the recent *Handbook of Educational Psychology* focused on beliefs, thinking, and knowledge (Borko and Putnam, 1996; Calderhead, 1996). Similarly, teachers' emotions are rarely mentioned in the five chapters on teachers and teaching in the current *Handbook of Research on Teaching* (Richardson, 2001). Only two chapters in the *Handbook of Research on Teacher Education* (Sikula *et al.*, 1996) focus on teachers. One chapter stresses beliefs and attitudes (Richardson, 1996), the other addresses identity and personal meaning (Carter and Doyle, 1996). Neither considers emotions.

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Research on teachers' cognitions has developed and expanded since the early 1970s, stimulated in large part by the rapid growth of research in cognitive psychology (Calderhead, 1996). Despite the enormous blossoming of psychological research on emotions since the early 1980s (Lewis and Haviland, 1993), little of this work has informed current research on teachers. Researchers know surprisingly little about the role of emotions in learning to teach, how teachers' emotional experiences relate to their teaching practices, and how the sociocultural context of teaching interacts with teachers' emotions. Researchers also know little about how teachers regulate their emotions, the relationship between teachers' emotions and motivation, and how integral emotional experiences are in teacher development.

There are at least two reasons for this paucity of research on teachers' emotions: (1) the recency of the emotional revolution in psychology and (2) American's beliefs about emotions. First, it takes time for the findings in one discipline to be applied to another. The research on teachers' cognitions did not begin until the early 1970s (Calderhead, 1996) even though the official beginning of cognitive science is identified as 1956 (Gardner, 1987). The burgeoning of psychological research on emotions began in the early 1980s (Lewis and Haviland, 1993), but it was not until the late 1990s that this topic gained importance in teacher education—with the special edition of the *Cambridge Journal of Education* edited by Nias (1996) and several articles by Hargreaves (1998a, 1998b, 2000; see also Lasky, 2000). Motivation research on achievement goals did not begin to focus directly on emotions until the late 1990s (e.g., Kaplan and Maehr, 1999; Linnenbrink and Pintrich, 2002; Meyer and Turner, 2002). However, the relative lack of explicit attention to emotions in current educational research in the United States is clear from the exclusion of the term "emotion" from the list of nearly 200 session descriptors for the American Educational Research Association's annual meeting in 2002 (Elliott, 2001).

Second, "There is suspicion in Western culture that there is something wrong with emotions" (Oatley and Jenkins, 1996, p. 38). When we say someone is "emotional," we usually mean irrational. Emotions, although sometimes thought of as a guide to our true selves, are often thought of as out of control, destructive, primitive, and childish, rather than thoughtful, civilized, and adult. If researchers who pride themselves on their rationality and logic hold these latter beliefs, it is not surprising that little research has been conducted on the emotions of teachers and other workers (Ashforth and Humphrey, 1995).

In this article, the literature related to teachers' emotions is reviewed. To clarify our theoretical perspective on teachers' emotions, the article begins with a multicomponential perspective on emotions. Then, the empirical literature that focuses on the range of positive and negative emotions that

teachers experience is summarized and critiqued. Next is an analysis of the various ways in which teachers' emotions may influence their own cognition, motivation, and behavior, as well as their students' cognition, motivation, and behavior. Finally, several future directions for research are suggested and an overview of research methods used in a multicomponential perspective on emotions is provided. This review draws from a variety of research literatures: educational psychology, social and personality psychology, educational sociology, and research on teachers and teaching. Because these fields are so large our review is not exhaustive. However, the wide range of theory and research reviewed provides an understanding of the current state of knowledge about teachers' emotions and guidelines for future research directions.

A MULTICOMPONENTIAL PERSPECTIVE ON EMOTIONS

Although social and personality psychologists do not agree on what emotions are, many theorists conceptualize emotions as multicomponential processes (e.g., Frijda, 1986, 2001; Lazarus, 1991; Planalp, 1999). The emotional process consists of a network of changes in a variety of subsystems (or components) of the organism. These components typically include *appraisal*, *subjective experience*, *physiological change*, *emotional expression*, and *action tendencies*. These components influence each other but are partially independent. Different emotion components do not automatically follow from each other (Mesquita *et al.*, 1997). For example, it is common for individuals experiencing anger at another person to have an impulse to move toward that person (i.e., a form of action tendency); however, some individuals and groups, especially the Dutch, have an impulse to move away (Mesquita *et al.*, 1997). Also, some individuals experiencing fear have higher heart rates whereas others experience lower heart rates (Cacioppo *et al.*, 1993).

Appraisal

Many emotional theorists believe that the emotion process begins with some kind of judgment or *appraisal* that involves the interpretation of some transaction in terms of its significance or relevance for the individual's motives, goals, or concerns (Roseman and Smith, 2001; Scherer, 2001). For example, Lazarus (1991) maintains that "primary appraisal" (p. 133) has three features. First is goal relevance, or the extent to which an encounter touches on personal goals. Goal relevance is essential for experiencing an emotion. The second feature is goal congruence; positive emotions arise from

goal congruence whereas negative emotions arise from goal incongruence. The third feature is the type of "ego-involvement"(p. 133). For example, in anger, one's self- or social-esteem is assaulted, whereas in pride, one's self- or socialesteem is enhanced. Lazarus (1991) concluded that each individual emotion involves a core relational theme that summarizes personal harms and benefits residing in each person–environmental relationship. Thus, the core relational theme for anger is a "demeaning offense against me and mine" (p. 222). The theme for happiness is "making reasonable progress towards the realization of our goals" (p. 267).

Appraisal theory explains why the same external event does not lead to the same emotions in individuals or why there are individual differences in the emotions that teachers' experience in response to the "same" student behaviors. For example, if a student swears at a teacher and refuses to do any work, one teacher may become angry—perceiving this as a demeaning offense, whereas another teacher may be sad—perceiving this as a sign of an irrevocable loss due to parental neglect and abuse.

Appraisal theories of emotions are central to the understanding of the role of culture in emotion: cultural differences in emotions are seen as a result of systematic cultural differences in the perception and interpretation of the "same" events (Mesquita and Ellsworth, 2001). "Cultures differ in the kinds of events that attract attention; arouse immediate pleasant or unpleasant feelings; are seen as one's own fault or someone else's, or no one's; or are perceived as obstacles" (Ellsworth, 1994, pp. 29–30). This means that if students or teachers from different cultures have a different appraisal of a classroom event, then they are likely to experience different emotions. These different emotions, in turn, are likely to influence how teachers think about and interact with students.

Subjective Experience

The *subjective experience* of emotions is a distinct type of private mental state (e.g., Oatley, 1992). Thus, joy does not feel like surprise, sadness, anger, or fear. Teachers who report experiencing much joy and little anger have a different experience of teaching than those who experience constant frustration and little joy. The experience of emotions has been studied through the metaphors people use, and the metaphors for anger as heat or pressure are common across cultures (Kövecses, 2000). American adults often talk about anger in terms of fire, heat, or blowing off steam, and talk about calming down as cooling (Gottman *et al.*, 1997). Teachers use similar metaphors. For example one teacher said " . . . I was very angry, and if steam could come out of my nose and ears, it probably could [s*ic*]" (Sutton, 2000b, p. 3).

American parents have positive and negative metaphors for sadness (Gottman *et al.*, 1997). For example, some parents believe that sadness is there for a reason, to provide information about some aspect of one's life. In contrast, other parents believe that sadness is toxic and should be ignored or cleansed as quickly as possible. These metaphors influence the way that parents or teachers respond to children's sadness.

Physiological Changes and Emotional Expression

The emotion process also involves *physiological changes*, affecting, for example, body temperature, heart rate, and blood pressure (Cacioppo *et al.*, 2000; Pittam and Scherer, 1993). *Emotional expression* includes facial expressions, which often change in predictable ways when individuals experience emotions (Darwin, 1998; Keltner and Ekman, 2000). Some physiological changes and nonverbal expressions of emotion (e.g., facial changes) are consciously felt by teachers and observed by their students. Students may then behave differently because of their observations. For example, when asked how successfully she masked her emotions, one teacher said (Sutton, 2000b, p. 3)

> Not very .... they know when I am not myself. And they know ... when my body language is not saying what my mouth is saying or what my other behaviors are saying ... Sometimes they will come and ask me, are you sure you are ok?

Action Tendencies

A*ction tendencies* are also called action readiness or response tendencies (Gross, 1998; Lazarus, 1991; Mesquita *et al.*, 1997). For example, a teacher may want to shout for joy when a struggling student masters a concept. Another teacher may feel an impulse to ridicule a student who disrupts the entire class. These action tendencies can be modulated or regulated. For example, the first teacher might quietly tell the successful student "good job," rather than shouting for joy. Rather than ridiculing the disruptive student, the second teacher might ask the student to leave class. Action tendencies are often so powerful that they temporarily over ride longer-term goals of emotional regulation (Baumeister *et al.*, 1994; Tice *et al.*, 2001). For example, one teacher said (Sutton, 2000b, p. 3)

> Well, if I get really angry ... it's really hard for me to cover it up ... and then sometimes I regret [getting angry] because I'm always trying to stay in control. When someone finds the right button to push ... that ... upsets me. In other words, when I look back... I'm upset with myself for letting myself get upset.

The complexity of the emotional process—including the components of appraisal, subjective feeling, physiological changes, facial expression, and action tendencies—foreshadows the ways in which teachers' emotions are manifested in teaching. The next section examines the emotions that teachers' experience and the research and theory regarding the antecedents of those emotions.

EMOTIONS ARE AN INTEGRAL PART OF TEACHERS' LIVES

Along with motivation and cognition, psychologists now recognize emotions as one of three fundamental classes of mental operations (Mayer *et al.*, 2000). Therefore, knowledge of teachers' emotions is essential in understanding teachers and teaching. Most of what is known about the emotions that teachers experience comes from a wide range of research on teaching and teacher education. Much of this empirical literature on emotions in teaching is embedded in broad sociological studies of beginning and experienced teachers' lives (e.g., Bullough *et al.*, 1991; Jackson, 1968; Lortie, 1975; Nias, 1989; Waller, 1932; Woods and Jeffrey, 1996). This research was stimulated by the changes in teachers' lives resulting from school reform (e.g., Hargreaves, 1998b; Little, 1996). Drawing from this sociological literature and from several psychological studies focusing on teachers' emotions (e.g., Emmer, 1994a; Reyna and Weiner, 2001; Sutton, 2000a; Sutton *et al.*, 2003), the next section describes the positive and negative emotions that teachers' experience.

Positive Emotions

Psychologists typically classify emotions as positive if these involve pleasure or occur when one is making progress toward a goal (e.g., happiness, satisfaction). The positive emotions most often discussed in the literature on teachers are love and caring. Laypersons use the term "caring" to mean an emotion in the same category as love and affection (e.g., Shaver *et al.*, 1987; Lazarus, 1991) and so have researchers (e.g., Hargreaves, 1998b; Nias, 1989; Woods and Jeffrey, 1996). The importance of love and affection of teachers has been documented in the United States (e.g., Emmer, 1994a; Godar, 1990; Jackson, 1968), Canada (e.g., Hargreaves, 1998b), England (e.g., Nias, 1989; Woods and Jeffrey, 1996), and Israel (Elbaz, 1992). The emotion of caring for students has frequently been discussed as a special characteristic of women and elementary teachers (Woods and Jeffrey, 1996); however, no gender differences in caring were found by Hargreaves (1998b). Furthermore, middle school and high school teachers also talk about caring for their students (e.g.,

Emmer, 1994a; Godar, 1990). In an interview study of middle school teachers in the United States, only 10% of the teachers spontaneously talked about love and caring, but 70% said love was a relevant emotion when given a list of emotions (Sutton, 2000a).

Teachers also talk about the joy, satisfaction, and pleasure associated with teaching. One major source of teachers' satisfaction occurs when children learn and make progress (Emmer, 1994a; Hargreaves, 1998b; Hatch, 1993; Jackson, 1968; Lortie, 1975; Nias, 1989; Sutton, 2000a). Teachers often talk about their pleasure in the growth of individual children, especially if these children struggled initially. Teachers talk about the joy they experience in their relationships with children, especially when the children are responsive. Teachers enjoy spending time with children in school and in extracurricular activities (e.g., Erb, 2002; Golby, 1996; Hargreaves, 2000; Lortie, 1975; Nias, 1989; Sutton, 2000a). Other sources of pleasure and pride for teachers are former students coming back to talk to them (Hargreaves, 1998b; Jackson, 1968; Lortie, 1975; Sutton, 2000a) and students cooperating with no major disruptions (Emmer, 1994a; Hatch, 1993; Lortie, 1975; Sutton, 2000a). Teachers experience positive emotions when they get everything done (Hatch, 1993), when colleagues are supportive (Erb, 2002), or when they believe that parents are responsible, support teachers' efforts, and respect teachers' judgment (Lasky, 2000).

Some teachers find teaching exciting (Jackson, 1968; Nias, 1989; Sutton, 2000a; Tickle, 1991). This excitement is associated with the unpredictability of teaching; no one can accurately forecast what children may say and do (Jackson, 1968; Nias, 1989). Excitement may be more common for beginning teachers—who are often enthusiastic and exhilarated by having their own students and classroom (Huberman, 1993). Unexpected comments and behaviors can lead to humor (Hargreaves, 1998b; Jackson, 1968; Nias, 1989; Waller, 1932). The appraisals related to the emotions of humor and excitement are incongruity, contradictions, and unexpected elements (Ruch, 1993) rather than goal congruence.

Negative Emotions

The positive emotions teachers report are paralleled by their reports of negative emotions, especially anger and frustration. Teacher anger is common but not often seen in short-term visits (Jackson, 1968). Every middle school teacher interviewed by Sutton (2000a) talked about frustration or anger or both.

Frustration and anger arise from a number of sources related to goal incongruence. These include students' misbehavior and violation of rules (Emmer, 1994a; Erb, 2002; Hargreaves, 2000; Jackson, 1968; Sutton, 2000a)

and factors outside the classroom that make it difficult to teach well (Golby, 1996; Nias, 1989). Other sources of anger and frustration include uncooperative colleagues (Bullough *et al.*, 1991; Erb, 2002; Nias, 1989) and parents who do not follow institutional norms of appropriate parental behavior or are perceived as uncaring and irresponsible (Lasky, 2000). Teachers are also likely to become angry when they believe that students' poor academic work is due to controllable factors such as laziness or inattention (Reyna and Weiner, 2001). Anger and frustration are exacerbated by tiredness and stress (Bullough *et al.*, 1991; La Porte, 1996; Nias, 1989; Sutton, 2000a) and losing one's temper can make teachers' feel ashamed (Lortie, 1975). However, some teachers consciously use "fake anger" to manage their students (Woods and Jeffrey, 1996) and some teachers report learning to control their anger with experience (Golby, 1996; Sutton, 2002).

Beginning teachers often experience anxiety (Bullough *et al.*, 1991; Erb, 2002; Lortie, 1975; Tickle, 1991) because of the complexity of learning to teach and the uncertainty of achieving goals. Beginning teachers are also anxious when they interact with parents (Erb, 2002). More experienced teachers may also be anxious because of the uncertainty of determining whether they are doing a good job (Lortie, 1975). Lazarus (1991) identified this kind of ego threat as one key factor in anxiety.

Other negative emotions have also been documented. Limits to teachers' efficacy (e.g., the system, parents) can leave teachers feeling helpless (Kelchtermans, 1996). Guilt is a key feature of the emotional lives of elementary teachers because of four characteristics of the job (Hargreaves and Tucker, 1991). These characteristics are the commitment to care, the open-ended nature of teaching, the increased accountability and intensification of teachers' work, and the persona of perfectionism. Half of the teachers interviewed by Sutton (2000a) reported feeling sad, typically about the home life of some of their students. Emotion researchers argue that sadness is associated with a judgment that one has suffered a permanent loss (Lazarus, 1991) and a belief that one is not responsible for this loss (Barr-Zisowitz, 2000). This argument implies that teachers experience sadness about their students' home lives because they believe they can do little or nothing about problems in children's homes.

Commentary and Critique

The research reviewed so far provides an overview of the range of emotions that teachers experience and the conditions under which these emotions are experienced. These data are useful as they suggest possibilities for future research. For example, are the experiences of positive and

negative emotions similar for teachers of varying ages, levels, years of teaching, and for those working in different contexts? How are teachers' emotions related to their goals? Are teachers' experiences of emotions related to their effectiveness as teachers? Are the sadness and anxiety that some teachers experience in interacting with parents a barrier to effective collaboration between teachers and parents?

While suggesting new research directions, the existing research has limitations when viewed from a contemporary perspective. The investigators used semistructured interviews, preventing them from studying all aspects of a multicomponential model of emotions. Although interviews are an important technique for gaining information about the subjective experience of emotions, and can also provide important information about emotional appraisal and action tendencies, they are less helpful in assessing the physiological change and emotional expression components of teachers' emotions. To gain a more complete picture of teachers' emotions, researchers must also include measures that extend beyond self-report such as observations and physiological measures. The interdependence of emotion components (Mesquita *et al.*, 1997) means that replacing interview techniques with observations is not the solution. Rather, multiple measures research is needed.

Researchers' heavy reliance on semistructured interviews and their interest in broad aspects of teachers' lives (e.g., Erb, 2002; Hargreaves, 1998b, 2000; Lasky, 2000) resulted in a research focus on the emotional incidents that are salient enough to be recalled at some later time. Teachers have been asked to report "emotional incidents" (Erb, 2002), "significant emotional episodes" (Hargreaves, 2000, p. 816), or "key events that left a particularly strong emotional impact" (Lasky, 2000, p. 846). Adopting this focus for interviews has channeled the attention of these researchers and their study participants to salient emotional episodes rather than the daily experience of emotions in the classroom. Teachers may have many emotional episodes in a single day, but none of them may be particularly salient a week later, even though they were important at the time. Investigations into day-to-day emotions often use emotion diaries (e.g., Averill, 1982; Oatley and Duncan, 1992; Sutton *et al.*, 2003) or the experience sampling methodology in which respondents are asked to record their emotions at random intervals (e.g., Asakawa and Csikszentmihalyi, 1998; Hektner and Csikszentmihalyi, 2002). Using these kinds of methodologies should greatly expand knowledge about teachers' emotions.

POTENTIAL INFLUENCES OF TEACHERS' EMOTIONS

The apparent prevalence of emotions in teaching is only important if there is reason to believe that emotions influence teachers, teaching, and

students. There are empirical and theoretical reasons for believing that teachers' emotions play an important role in each of these three areas. Given the relative paucity of research on teachers' emotions, this section of the review relies in part on research and theory from work in cognitive and social psychology that is not specifically focused on teachers. This section identifies research and theory that suggests links between teachers' emotions and their cognition, motivation, behaviors, as well as the influences of teachers' emotions on students.

Emotions May Influence Teachers' Cognitions

Emotions frequently shape cognitions, and some emotion theorists include changes in cognitive functioning as part of their definition of the emotion process (Mesquita *et al.*, 1997). The potential cognitive influences of teachers' emotions on attention, memory, and problem-solving are discussed next.

Negative emotions focus *attention* (Derryberry and Tucker, 1994). They cause a mobilization and synchronization of the brain's activities, frequently intruding and flooding consciousness (LeDoux, 1996). Students' misbehavior that elicits negative emotions in teachers is distracting and diverts attention from instructional goals. For example

> I get very distracted when [students] are eyeballing each other across the room, even if they are not saying anything. I can't concentrate on what I'm saying and I screw up giving directions because I can't divide my attention that way (Beach and Pearson, 1998, p. 341).
>
> . . . when students are doing, we'll call it negative behavior, it distracts me from what I'm trying to think through. If I'm trying to explain something and there is negative behavior, maybe I'm more distractible than some, but it breaks my concentration and then I have to refocus myself (Emmer, 1994a, p. 3).

Teachers' negative emotions are a central component of management and discipline because they focus attention so powerfully (Emmer, 1994b), yet there is little management and discipline research involving teachers' emotions. Teachers are exhorted to "never become defensive or lose control of your feelings" (Gathercoal, 1993), and advised that "calm is strength; upset is weakness" (Wong and Wong, 1998, p. 164). However, the power of emotions when teaching and the difficulty teachers have in regulating their own emotions, especially negative emotions, are rarely discussed.

Emotions can affect *memory* in three principal ways (Parrott and Spackman, 2000). First, research on memory content suggests that emotional stimuli are often remembered better than unemotional stimuli (e.g., Mogg and Bradley, 1999). For example, a teacher is more likely to remember the interaction with a parent who is angry over her child's school suspension

than the calm interaction with another parent over his child's one-time absence to attend a family reunion. A result of such selective memories could be the teacher's biased conclusion that "most parents in this district are difficult." Second, intense emotions improve memory for central details while undermining memory for background details (Heuer and Reisberg, 1992). For example, a teacher's memory of being intensely angry with two disrespectful students may not include the behavior of the other students in the class at the time of the incident. Third, a person's emotion or mood when retrieving information often influences memory. For example, a teacher experiencing happiness may be more likely to recall happy incidents rather than those in which she was sad. This phenomenon, referred to as mood-congruent memory, involves the interaction of the emotional content of the memory and one's emotion during retrieval (Parrott and Spackman, 2000).

Mood congruent memory is an appealing construct, but research indicates that mood *incongruent* recall also occurs. Approaches to memory that focus on emotional self-regulation provide an explanation for these mixed findings (Parrott and Spackman, 2000). One motive for mood-congruent recall is to sustain or intensify the current emotion (e.g., when a teacher seeks angry memories to justify throwing a child out of his class). A motive for mood-incongruent recall might be to alter one's present emotional state (e.g., when a teacher seeks humorous memories to reduce her anger at a disobedient child). A teacher of students with severe emotional disturbances illustrates the self-regulation of emotion through conscious memory recall (Sutton, 1999).

> Actually, I use this a lot. I think of a very serene place when I notice that I'm getting upset, I think about a mountain, I'm on top of a mountain and the sun is setting, and it immediately calms me down and I'm able to be calm—I don't show my student [my] feelings.

Teachers' emotions may also influence their *categorizing, thinking, and problem solving*. Experimentally induced positive affect[4] often influences the way people categorize material (Isen, 1993). In positive affect conditions, people were more likely to categorize individuals favorably (e.g., classifying bartenders as "nurturant") than in neutral conditions (Isen *et al.*, 1992). Perhaps happy teachers categorize more students in positive categories such as "hard working," or "well behaved," or "trying hard" than do unhappy

[4]Researchers do not agree on definitions of emotions, mood, and affect. However, common distinctions are that emotions are of shorter duration than moods, typically have a object whereas moods do not, and that emotions involve appraisals whereas moods may not (Oatley and Jenkins, 1996). Affect is typically thought of as a more general term than emotion and refers to consciously accessible feelings (Fredrickson, 2001) that may be free floating or objectless. However, some researchers use these terms interchangeably and in this review we use the term that the researchers use.

teachers. Teachers often treat students differently if they are classified as "trying hard but slow" rather than "lazy."

High anxiety can reduce the limited resources of working memory (Eysenck and Calco, 1992) because of intrusive thoughts and worry. This loss of resources impairs task relevant processing (Ashcraft and Kirk, 2001). So a beginning teacher who is highly anxious about his lesson plans and unruly students is less likely to solve the myriad of classroom-based problems that occur every day.

In contrast to the negative cognitive effects of anxiety, certain positive emotions such as joy, interest, pride, and love broaden people's "momentary thought-action repertoires" (Fredrickson and Branigan, 2001, p. 133-4); that is, more thoughts and actions come to mind. For example, research participants who viewed a short film that evoked positive emotions generated more ideas than those who saw a film clip that evoked negative emotions (Fredrickson, 2001). This suggests that teachers who experience more positive emotions may generate more teaching ideas and strategies. This might help them develop "broad minded coping" skills (Fredrickson, 2001, p. 223) such as stepping back from situations to be more objective, and generating different ways to solve problems. These coping skills, in turn, may help teachers achieve more of their goals. Achieving more goals could promote more positive emotions and onward in an upward spiral.

Emotions May Influence Teacher Motivation

Emotions may affect teachers' intrinsic motivation, attributions, efficacy beliefs, and goals. Negative emotions often reduce teachers' intrinsic motivation as "negative emotions tend to be incompatible with enjoyment as implied by interest and intrinsic motivation" (Pekrun *et al.*, 2002, p. 97). This suggests that teachers who are constantly frustrated by ineffective administration, disruptive students, "difficult" parents, or by changing testing demands are less intrinsically motivated. Teachers who feel sad or disgusted about their students' life circumstances may also be less intrinsically motivated.

Some theories suggest that positive emotions are a necessary but not sufficient precondition for intrinsic motivation. For example, enjoyment is a necessary precondition for experiencing "flow" (e.g., Csikszentmihalyi, 1990). Similarly, in self-determination theory, feelings of autonomy, competence, and relatedness are necessary preconditions for intrinsic motivation (Ryan and Deci, 2000). Furthermore, if positive emotions broaden thinking, as noted earlier, then they help teachers to teach in ways that are optimally challenging for the teacher, which is another prerequisite for experiencing flow (Csikszentmihalyi, 1990).

Our emotional states also influence which attribution is chosen as the likely explanation for an outcome (Weiner, 2000). For example, in an experimental study, angry college students were more likely to attribute hypothetical misfortunes to other people, whereas sad students were more likely to attribute these misfortunes to situational forces (Keltner *et al.*, 1993).

> The appraisal that other people are responsible for one's misfortune is central to the experience of anger. When we are angry, our colleagues, friends, loved ones, and children seem lazy, manipulative, and intentionally obtuse; when we are sad we may see the same behaviors as signs of overwork, real need, or genuine misunderstanding (p. 751).

Attributional reasoning may then influence teachers' responses and choice of teaching strategies. For example, practicing teachers and undergraduates playing the role of teachers chose more punitive consequences for students whom they judged responsible for academic failure than for students whom they judged to have little control over their academic failure (Reyna and Weiner, 2001). Teachers who assume that student failures are caused by students' laziness or deviousness, rather than real need, are unlikely to provide the appropriate instructional or emotional support.

Bandura's theory of self-efficacy (e.g., Bandura, 1997) states that emotions influence individuals' efficacy judgments, and one type of self-efficacy belief is perceived control over affect. However, most self-efficacy research involving emotions has studied emotions as a consequence rather than an antecedent of emotions. Anxiety is the emotion most often included in self-efficacy research. Lesser attention has been given to anger and positive emotions such as happiness.

There is evidence that experimentally induced positive mood enhances perceived self-efficacy and that negative mood diminishes it (Kavanaugh and Bower, 1985). Furthermore, happy or sad mood can influence perceived efficacy for tasks other than those for which the mood-inducing experience occurred (Kavanaugh & Bower, 1985). Thus, emotions may account for a portion of the variance in self-efficacy that has previously been explained by differences in attributional reasoning. This suggests that the substantial intrateacher variation in teacher efficacy (see Raudenbush *et al.*, 1992; Ross *et al.*, 1996) may result in part from variance in teachers' emotions.

There are several ways in which emotions might affect teachers' goals. These include the level of challenge in the goals that teachers select, the goal of experiencing positive emotions in teaching, and the adoption of mastery goals. According to Locke and Latham's goal-setting theory, mood influences individuals' choice of goals—with positive mood leading to the choice of more ambitious goals (Locke and Latham, 1990). Thus, positive mood may lead teachers to set more challenging learning goals for students and set more ambitious goals regarding their own teaching.

The issue of whether or not teachers anticipate experiencing positive or negative emotions when trying new teaching approaches has received little research attention. An important goal for many teachers may be to increase positive emotions experienced during teaching and decrease negative ones. This goal is consistent with Ford's motivational systems theory (e.g., Ford, 1992), in which *affective goals* are an important category of human goals. The concept of affective goals is also consistent with one finding from research on gambling—that anticipated pleasure can influence individuals' choices (Mellers and McGraw, 2001).

Finally, emotions may influence teachers' adoption of mastery versus performance and approach versus avoidance goals. Research on student achievement goals has found that positive emotions are more likely associated with mastery and approach goals, and that negative emotions are more likely associated with performance and avoidance goals (Linnenbrink and Pintrich, 2002; Meyer and Turner, 2002; Turner *et al.*, 1998). Because motivation researchers believe that the type of goal that individuals adopt is crucial for their cognition, motivation, and achievement behaviors, the relationship between teachers' emotions and the kinds of goals they adopt merits research.

Students Are Aware of and Influenced by Teachers' Emotions

Although teachers may often attempt to mask their feelings, students are often aware of teachers' emotions. There are many ways that emotions can be communicated involuntarily and voluntarily. Observable physiological changes during the emotion process include sweating, blushing, and breathing fast (Cacioppo *et al.*, 2000; Planalp, 1999). Vocal changes in pitch, loudness, and speed also accompany the emotional process (Johnson and Scherer, 2000). Specific facial expressions are associated with emotions such as anger, sadness, joy, and surprise (Darwin, 1998; Keltner and Ekman, 2000) and observers often respond automatically to momentary facial changes associated with emotions (Dimberg *et al.*, 2000). The action tendency component of emotions can stimulate individuals to voluntarily communicate their emotions nonverbally (e.g., by raising a fist, frowning) or verbally (e.g., "I'm feeling happy").

Students are often aware of and influenced by teachers' expression of negative emotions. A diverse group of elementary school children were asked, "What rule would you like to make for the teacher to follow?" They frequently replied, "Don't yell at us" (Thomas and Montomery, 1998, p. 374). According to the children, teachers' yelling made them feel small, sad, ashamed, guilty, hurt, and embarrassed. One third-grade student said, "Even

when she is yelling at someone else, I feel like she is yelling at me" (Thomas and Montomery, 1998, p. 374). When kindergarten teachers expressed anger or exasperation, their students expressed overt signs of emotional upset rather than conforming to teachers' demands (Kounin, 1977). There were significant positive correlations between elementary and secondary students' reports of teachers' use of aggressive techniques (e.g., yelling at students who misbehave) and student disruption and level of misbehavior (Lewis, 2001).

Although teacher anger can be problematic, it can also have positive consequences. Averill (1982) argued that anger serves to communicate and enforce accepted standards of classroom conduct. For example, a first grade boy improved his reading after his teacher got angry and called the parents in for a conference because the boy did not bring his homework (Goldenberg, 1989).

Teachers express anger for student failures attributed to lack of effort (Clark, 1997; Clark and Artiles, 2000; Graham, 1984, 1990) and express sympathy or pity for failures attributed to lack of ability. These expressions of teachers' emotion then influence students' attributions regarding the causes of their successes and failures (Coleman and Jussim, 1983; Graham, 1984; Weiner, 2000). This is important because attributing one's failures to a controllable cause such as low effort is more motivationally adaptive than attributing one's failures to an uncontrollable cause such as low ability (e.g., Graham, 1984, 1990).

Many elementary school students believe that their errors made their teachers unhappy. An intervention designed to help teachers promote students' self-regulated learning reduced the percentage of students believing that errors made their teachers unhappy from 47 to 33% and reduced the percentage reporting that their errors made themselves unhappy from 64 to 37%. In addition, the percentage of students choosing easy tasks fell from 50 to 26% (Perry *et al.*, 2002).

Teachers' expression of positive emotions, especially caring, affects students of various grade levels. A recurring theme among high school students was the value they placed on having teachers who care about them (Phelan *et al.*, 1992). Middle school students who believed that teachers cared about them were more motivated, less likely to be involved in delinquency (Wong and Dornbusch, 2000), more likely to be helpful, cooperative, and to follow classroom rules and norms (Wentzel, 1996). Third-, fourth-, and fifth-grade students' interactions with their teachers were influenced by how much their teachers liked them (Skinner and Belmont, 1993). All of the successful teachers of African American students portrayed in *The Dreamkeepers* demonstrated caring for their students (Ladson-Billings, 1994).

Teachers vary in the frequency and intensity of the enthusiasm, enjoyment, and humor they communicate (e.g., Patrick *et al.*, 2001). The expression

of such positive emotions may influence students' goal orientation and task avoidance behaviors. Teacher humor was characteristic of low avoidance/high mastery classrooms but it was absent in high avoidance/low mastery classrooms (Turner *et al.*, 2002). In comparing two teachers, higher student self-reports of negative affect and self-handicapping were associated with the teacher who made fewer positive and more negative responses (Turner *et al.*, 2003). Thus, effective instructional scaffolding may include positive emotional support (Goldstein, 1999).

Commentary and Critique

It is important to reiterate the limitation of researchers' knowledge in some of the research areas reviewed above. Although it is clear that students are often influenced by their teachers' emotions, the linkages between teachers' emotions and teachers' cognitions or motivation are more speculative. Also, there is substantial research on the relationship between emotions toward others (sympathy vs. anger) and helping behaviors, including some research directly related to teaching (e.g., Reyna and Weiner, 2001). In contrast, the possible influence of teachers' anticipated emotions on their choice of teaching methods is less certain.

Furthermore, the possible effects of teachers' emotions on teacher motivation and behavior may be more complex than the above analysis suggests. For example, writers who urge caring as a basis for management and discipline (e.g., Freiberg, 1999) do not discuss how caring for children can coexist with anger, disgust, and sadness. This variety of emotions can lead to an "emotional roller coaster" (Sutton, 2000a) that can make it difficult for teachers to behave consistently. Moreover, emotions may influence teachers and students differently because teachers have a different role in classrooms, are older than students, and are often from different cultural backgrounds.

Largely unexplored in this review are a myriad of critical issues regarding culture and context. For example, adopting the goal of experiencing positive emotions while teaching may be viewed as legitimate and valuable in some teaching contexts but as indulgent, or even sinful in others. Similarly, the role of teachers' emotions for teachers and teaching might be different within cultures that highly value strong self-regulation (i.e., control) of emotions than for cultures that highly value self-expression of emotions.

For example, middle class White American teaching interns found that classroom management and discipline in a predominantly African American inner-city school was more emotional than what they had been taught was effective in their university-based training. They saw teachers yelling

and getting angry but also showing much love and caring (Higgins and Moule, 2002). Recent research in cross cultural psychology suggests that teachers and students from Asian countries that are oriented toward interdependence are typically more concerned with regulating emotional states than are teachers and students from independence-oriented countries such as the United States or those in Western Europe (Suh *et al.*, 1998).

Subject matter is another important context for considering teachers' emotions. For example, do strong emotions and strong expression of emotions "work" differently when teaching drama, dance, and physical education than when teaching calculus, word processing, or civics? Also, the emotional expression that is appropriate for preschool teachers might be different from that which is appropriate for high school teachers. Many other aspects of culture and context may be critical for developing a fuller understanding of the role of teachers' emotions in teaching.

FUTURE RESEARCH DIRECTIONS

In this review of the literature, we have raised many research questions that result from a consideration of teachers' emotions. In the next section, four areas of research are discussed: management and discipline, adopting and using new teaching strategies, learning to teach, and teacher motivation.

Reconceptualizing Management and Discipline

Classroom management and discipline is a central concern of most beginning teachers and is a component of the licensure standards for beginning teachers (e.g., Educational Testing Service, 1995). However, there is surprisingly little current research related to management and discipline, and the latest edition of the *Handbook of Research on Teaching* (Richardson, 2001) does not contain a chapter on classroom management. Several recent studies have demonstrated the benefit of applying contemporary motivation theories to management and discipline. In one of these studies, ninth-grade students reported less disruptive behavior in classrooms perceived to have a mastery goal structure and reported more disruptive behaviors in classrooms perceived to have a performance-approach goal structure (Kaplan *et al.*, 2002). Similarly, there are likely to be benefits of applying current theory and research on emotions to research in management and discipline (Emmer and Stough, 2001).

First-year teachers typically say that discipline is one of their biggest concerns and that their teacher education program ill-prepared them for the realities of K-12 teaching (Jones, 1996). Student teachers typically become less humanistic and more custodial in their orientation toward students. This pattern has been explained by the conservative press of schooling or the number of years student teachers have experienced schooling (Cochran-Smith, 1991). Another explanation focuses on emotions: teachers focus on discipline problems because the emotions triggered from noncompliance of students are typically negative. These negative emotions focus attention (Derryberry and Tucker, 1994) and can flood consciousness (LeDoux, 1996). So for beginning teachers with a limited repertoire of classroom management strategies, discipline issues are central and an increase in custodial beliefs is understandable.

This analysis raises some interesting research questions. When one or more students misbehave, is the intensity of beginning teachers' emotional responses stronger than that of more experienced teachers? Do teachers' appraisals regarding their students' misbehavior influence this intensity? There may be individual differences as well as developmental trends. Are teachers who are less emotionally reactive more successful with management and discipline? These questions are related to a growing field in psychology—emotional regulation.[5]

"Emotional regulation refers to the processes by which individuals influence which emotions they have, when they have them, and how they experience and express these emotions" (Gross, 1998, p. 275). When individuals successfully regulate their emotions, behaviors associated with longer-term goals overcome the immediate action tendencies that are part of the emotional process. The majority of middle school teachers in one study believed that regulating their emotions while teaching was effective (Sutton, 2002). Most of teachers' emotional regulation was of negative emotions (e.g., controlling their anger) but some regulation was associated with positive emotions (e.g., waiting for a private moment to tell a student he had done good work). What do teachers of various grade levels and cultures believe about emotional regulation? How is school and classroom context related to beliefs and practices regarding emotional regulation? How do teachers learn to regulate their emotions in the classroom? Can we teach teachers to regulate the subjective experience, emotional expressions, and physiological changes that are part of the emotion process? Should we? Emotional regulation and classroom management and discipline are separate fields. However, bringing

[5]The psychological concept of self regulation is related to the sociological concept of emotional labor (Grandey, 2000). Hargreaves (1998a,b) and Larabee (2000) have examined teaching as a form of emotional labor.

emotional regulation into the study of management and discipline could be an important part of a reconceptualization of research on management and discipline.

More specifically, analyses of teachers' appraisals of students' behavior may help researchers reconceptualize management and discipline. For example, when middle school students are told to do something by their teachers, they sometimes mutter something disrespectful or even obscene while reluctantly complying. One teacher who hears such a comment may appraise this as a demeaning offense and angrily send the student to the office for punishment. Another teacher in the same situation may interpret it as the student trying to save face among his peers and do little more than raise an eyebrow as long as the student complies. How do teachers' appraisals influence their management and discipline strategies? What is the relationship between teachers' and students' cultural experiences and teachers' appraisals? Can appraisals be modified? If yes, will this influence management and discipline? These questions suggest the benefits of including emotions in a reconceptualization of classroom management and discipline research.

Adopting and Using New Teaching Strategies

For teaching practices to improve, researchers must understand why teachers use some new teaching strategies yet resist other reform efforts. Many educational psychologists have played a role in developing model programs (e.g., Aronson and Patnoe, 1997; Comer *et al.*, 1999; Knapp and Peterson, 1995; Slavin and Madden, 2000) and promoting various educational reform efforts (e.g., Maehr and Midgley, 1996; Pollard and Ajirotutu, 2000). Unfortunately, many of these model programs and reform initiatives have not been widely used by teachers. A fuller understanding of teachers' emotions in teaching may help researchers understand the complex reasons underlying the limited success of even well designed programs and the reasons new teaching strategies are often not adopted or even attempted.

The links between teachers' emotions and teaching strategies were clearly illustrated in work by Hargreaves (2000), a qualitative sociologist. He argued that the centrality of teachers' emotional relationships with students forms a filter for their work. For example, teachers choose instructional strategies based in part upon the effects of these strategies on students' and teachers' emotions. Teachers also evaluate school reforms in light of their likely effects on teachers' emotional relationships with students.

This work raises intriguing questions. How do teachers' emotions influence their choice of teaching strategies? Does the relationship between

emotions and teaching strategies change over time? Are reforms that require changes in the social and emotional relationship between students and teachers less likely to be adopted?

In an earlier section, the conditions under which teachers often experience positive emotions were summarized (e.g., seeing students make progress, students being responsive, spending time with students, and parents supporting teachers' efforts and respecting their judgment). Classroom reforms could lessen these experiences that elicit positive emotions. For example, teaching in a new manner may initially be less effective, so students will make less progress and may not be as responsive. Implementing a reform often involves attending after school workshops and classes, attending additional meetings with colleagues, and more planning time. These activities could reduce the amount of time that teachers have available to enjoy interacting with students in extracurricular activities or "just hanging out." Also, parents may react negatively to new teaching methods and thus be less likely to support the teachers' judgment. Laboratory studies have indicated that anticipated emotions guide choices (Mellers and McGraw, 2001). If teachers anticipate that new teaching strategies are more likely to bring emotional pain than pleasure, they are less likely to adopt and use these strategies.

This analysis suggests a variety of questions: What emotions does the introduction of model programs engender? Does the manner in which the reform is introduced influence teachers' appraisals and the subjective feeling component of the emotions? If reformers carefully take into account the complexity of the emotional process of teachers, will these reforms be more effective?

Learning to Teach

Understanding how teachers learn to teach has important implications for teacher educators and policy makers. There is a substantial body of research related to the role of *beliefs* in learning to teach (Borko and Putnam, 1996; Richardson, 1996) but there is almost no research on the role of *emotions* in learning to teach. Many of the questions raised in relation to beliefs can also be raised in relation to emotions. For example, how are teachers' emotions shaped by their temperaments, family experiences, cultural origins, age, their emotional experiences as students, and the settings in which they learn to teach? How are the subjective emotional experiences of preservice and beginning teachers related to their knowledge and beliefs about subject matter, general pedagogy, and content specific pedagogy? How are teachers' emotions related to their classroom behaviors? The links between classroom

behavior and teacher beliefs are tenuous (Richardson, 1996). Would these links be stronger if emotions were included into research on teacher beliefs?

Are beginning teachers' emotions exceptionally intense and erratic? Erb (2002) likened beginning teachers' emotions to a whirlpool (p. 1):

> From one experience to another, the world of the beginning teacher is never still. Although the direction of a whirlpool may be predictable, the degree of activity is less predictable. Opposing currents may create small or large whirlpools. Objects may stay afloat in gentle currents, or get sucked underneath the waters' surface by the overwhelming intensity of the force.

Do the subjective feelings, appraisals, physiological changes, emotional expressions, and action tendencies associated with emotions change during student teaching or during the first few years of teachers' careers? Teachers have reported some subjective changes in the intensity and unpredictability of their emotions in the initial stages of their teaching (e.g., Sutton, 2000a; Tickle, 1991), but the data on these questions are limited.

Another fruitful area to consider is beginning teachers' metaemotions. Metaemotion refers to an "organized and structured set of emotions and cognitions about the emotions, both one's own emotions and the emotions of others" (Gottman *et al.*, 1997, p. 7). For example, one teacher may be disgusted by her kindergarten students' anger, believing that children at that age should not express anger. Another teacher may believe that anger is acceptable and provides an opportunity to understand the child better. Some teachers report that they feel guilty or conflicted when they express anger to students. For example, one first-year teacher said, "As much as we don't want to acknowledge anger, it's there, every day. And, as teachers, are we allowed to be angry?" (Sutton, 2000a, p. 12)

What kind of metaemotions do beginning teachers have? Are beginning teachers' metaemotions related to the intensity and kind of "emotional whirlpool" they experience? Are some types of metaemotions more compatible with learning to teach than others are? Do teachers' metaemotions change over time?

Is one reason so many new teachers drop out of teaching related to the balance of their positive and negative emotional experiences while learning to teach? There may be some ratio of positive to negative emotions that individuals need to experience in order to cope with and be satisfied in their jobs. This concept is analogous to the balance theory of marriage (Gottman, 1994): stable marriages have a ratio of positive to negative affect of about five to one whereas the ratio in unstable, unhappy marriages is about one to one. Novice teachers are less skilled and are unlikely to experience the emotions associated with competence as frequently as experienced teachers. This means they will have a lower ratio of positive to negative emotions. Some

life span research suggests that negative emotions decline during adulthood (Carstensen *et al.*, 2000; Mroczek, 2001). This suggests that it may be fruitful to explore whether the balance of subjectively experienced positive to negative emotions is different for novice teachers in their 20s than for older novice teachers who are career switchers.

Teachers' Emotions and Teacher Motivation

Some exciting new motivation research has included emotions (e.g., Kaplan and Maehr, 1999; Linnenbrink and Pintrich, 2002; Meyer and Turner, 2002; Patrick *et al.*, 2001; Schutz and DeCuir, 2002). In this section, three promising research directions regarding the relationships between teachers' emotions and their motivation are suggested.

First, researchers might explore the direct influence of specific emotions on teacher motivation, for particular teaching tasks and contexts. "Motives derive their impelling force from their affective component" (Epstein, 1993, p. 313) so a logical question is, do teachers' emotions influence the amount of effort that teachers put into their teaching? For example, the action tendency for sadness is thought to be withdrawal into one's self (Lazarus, 1991), so do teachers who are sad put less energy into their teaching than teachers with more positive affect? Similarly, does the subjective experience of specific emotions influence teachers' persistence in teaching? Perhaps teachers who are habitually in a positive mood find it easier to persist through the inevitable problems that teachers encounter when using new teaching methods.

Second, researchers should examine the role that the multiple components of emotions play in moderating the influence of teacher efficacy or goal orientations. For example, doubts regarding one's teaching efficacy are traditionally assumed to lead to "less effort and giving up easily, which leads to poor teaching outcomes, which then produce decreased [teacher] efficacy" (Tschannen-Moran *et al.*, 1998, p. 234). However, does this assumption hold for teachers who can maintain positive emotions in the face of past failures and doubts about future success? One teacher who was doggedly persistent in teaching despite strong doubts about her past or future teaching efficacy was described by Wheatley (2000). Research on the potential moderating roles of teachers' emotions on their efficacy and goal orientations is clearly needed.

Third, are there individual differences in teachers' emotional goal orientations? Might some teachers be more oriented toward avoiding the subjective experience or physiological changes associated with negative emotions than other teachers? Do teachers who are oriented toward avoiding nega-

tive emotions make more conservative choices regarding classroom management strategies, curriculum, and instructional methods? Using conservative and familiar teaching strategies reduces the unpredictability of classroom life. This decreases the likelihood that unexpected events or failures will cause teachers to experience negative emotions while teaching. In contrast, are teachers who are less concerned about negative emotions more willing to take risks in their teaching? Such patterns would be consistent with claims made by Fiedler (2000) about the typical relationships between emotions and risk-taking.

Research Methods and a Multicomponential Approach to Emotions

A multicomponential perspective on emotions requires using a variety of research methods. *Appraisals* are typically assessed using standard questionnaires focusing on recent or salient emotional encounters of respondents (see Schorr, 2001 for an analysis of current questionnaires). Teachers could be asked to complete an appraisal questionnaire about recent emotional teaching events such as a moment of happiness or a difficult encounter with a parent. Appraisals have also been studied by having respondents' emotions simulated through vignettes describing emotional events. Although there is some controversy about the artificiality of simulated emotions, the work of Weiner and colleagues (e.g., Reyna and Weiner, 2001; Weiner *et al.*, 1997) is particularly relevant to research on teachers.

Researchers interested in the *subjective* experience of emotions typically use interviews. Asking respondents about their metaphors for their emotions has been especially informative, and this technique has been used in research on metaemotions (Gottman *et al.*, 1997). Assessing teachers' emotional metaphors through interviews is relatively easy and should provide important information on teachers' metaemotions and teaching.

Physiological measures such as finger temperature, heart rate, blood pressure, and skin conductance level have been used in the laboratory to assess the *physiological components* of emotion. The development of wearable affective sensors with wireless data transmission (Healey and Gould, n.d.) means that teachers' blood pressure or skin conductivity can be recorded during teaching without interrupting teachers or students. Other measures could be used during natural breaks in teaching (e.g., at the end of period). Including physiological measures is important because self-report about an emotion does not always correlate with a particular physiological response (Cacioppo *et al.*, 1993) and there are gender differences in awareness of physiological responses (e.g., Levenson *et al.*, 1994). In addition, few cultural

differences have been found in physiological measures although there are differences in self-report data (Tsai and Levenson, 1997).

The *expressive* component of emotions is usually measured through observation. Psychologists have developed detailed systems for recording facial expressions related to emotions (Ekman *et al.*, 1987). Videotaping, that allows fine-grained analyses, is important because research has documented that observers react unconsciously to momentary changes in facial muscles (Dimberg *et al.*, 2000). Students' conscious perception of the expressive component of teachers' emotions could be assessed through questionnaires or interviews.

Action tendencies are typically assessed through self-report measures such as questionnaires (e.g., Frijda *et al.*, 1995; Scherer, 1988). Newly developed questionnaires measure individual differences in the modification of action tendencies or emotional regulation (Gross and John, 1995) and these have been adapted for use with teachers (Sutton and Mudrey-Camino, 2003).

Emotion researchers interested in everyday emotions have used *diary studies*. An emotion diary is a specialized form of questionnaire in which respondents regularly record the varying components of their everyday emotions for a specified period of time. The diary protocol usually contains open and closed items. A classic study on anger was based on diary research (Averill, 1982) and psychologists have continued to use this technique, sometimes in combination with semistructured interviews (Oatley and Duncan, 1992). A recent diary study on teachers' anger and frustration assessed self-reports of appraisal, action tendencies, physiological responses, and emotional expression (Sutton *et al.*, 2002). Relationships between teachers' perceptions of their emotions and their classroom behaviors could also be explored through diary studies.

Experience sampling studies use beeper technology to ask respondents to record their emotions at random intervals. This method has been effective in assessing everyday emotions, for example, in studying adolescents' emotions when doing homework (Asakawa and Csikszentmihalyi, 1998), and adult workers' mood and satisfaction while on the job (Fisher, 2000). Using this approach, teachers and their students could record their emotions at the same time to determine the relationships between teachers' and students' emotions. Research on families has indicated that emotions are transmitted from adults to children (Larson and Almeida, 1999) and some teachers have reported that this occurs in their classroom (Sutton, 2002), but data other than self-reports are needed.

In this section, four broad areas for future research were outlined: management and discipline, the adoption and use of teaching strategies, learning to teach, and teacher motivation. A summary of methods was also provided. It is important to reiterate that knowledge of teachers and teaching can

be most effectively enhanced if researchers consider *both* cognitions and emotions. In addition, it is crucial that future research includes the multiple components of the emotion process rather than focusing primarily on the subjective experience of emotions. The multicomponential model provides a more complete understanding of emotions and also suggests areas for research in which important cultural variations may emerge (Mesquita *et al.*, 1997). Finally, future research should be explicitly sensitive to culture and context. This aim may be furthered by designing qualitative and quantitative research based upon the conceptual frameworks of situated cognition and sociocultural theory (e.g., Cobb and Bowers, 1999; Cole, 1996; Putnam and Borko, 2000; Rogoff, 1990).

CONCLUSION

The cognitive revolution in psychology stimulated a body of research that greatly increased our understanding of how teachers learn to teach. The current emotional revolution in psychology may stimulate a new body of research that contributes fresh insights into teachers and teaching. The research on emotions in psychology has grown so dramatically that in 2001, the American Psychological Association instituted a new journal, *Emotion*. Similar growth has occurred in research on the role emotions play in organizational settings (Fisher and Ashkanasy, 2000).

Educational psychologists interested in teachers and teaching are in a unique position to build on the developing theory and research on emotions and use it in their work. Such research may offer fresh insights about teachers and teaching and ultimately lead to new approaches for supporting teacher learning and for aiding school improvement efforts. It is not possible to predict the directions such research might take, the theories that might be developed, or the applications that might be generated. But there is much to be done.

REFERENCES

Aronson, E., and Patnoe, S. (1997). *The Jigsaw Classroom: Building Cooperation in the Classroom*, 2nd edn., Addison-Wesley, New York.

Asakawa, K., and Csikszentmihalyi, M. (1998). The quality of experience of Asian American adolescents in academic activities: An exploration of educational achievement. *J. Res. Adolescence* 8: 241–262.

Ashcraft, M. H., and Kirk, E. P. (2001). The relationships among working memory, math anxiety, and performance. *J. Exper. Psychol.: General* 130: 224–237.

Ashforth, B. E., and Humphrey, R. H. (1995). Emotion in the workplace: A reappraisal. *Human Relations* 48: 97–125.

Averill, J. A. (1982). *Anger and Aggression: An Essay on Emotion*, Springer, New York.

Bandura, A. (1997). *Self-Efficacy: The Exercise of Control* Freeman, New York.

Barr-Zisowitz, C. (2000). "Sadness"—Is there such a thing? In Lewis, M., and Haviland-Jones, J. M. (eds.), *Handbook of Emotions*, 2nd edn., Guilford Press, New York, pp. 607–622.

Baumeister, R. F., Heatherton, T. F., and Tice, D. M. (1994). *Losing Control: How and Why People Fail at Self-Regulation*, Academic Press, San Diego, CA.

Beach, R., and Pearson, D. (1998). Changes in preservice teachers' perceptions of conflicts and tensions. *Teach. Teacher Educ.* 14: 337–351.

Borko, H., and Putnam, R. T. (1996). Learning to teach. In Berliner, D. C., and Calfee, R. C. (eds.), *Handbook of Educational Psychology*, Macmillan, New York, pp. 673–708.

Bullough, R. V., Knowles, J. G., and Crow, N. A. (1991). *Emerging as a Teacher,* Routledge, London.

Cacioppo, J. T., Bernston, G. G., Larsen, J. T., Poehlmann, K. M., and Ito, T. A. (2000). The psychophysiology of emotion. In Lewis, M., and Haviland-Jones, J. M. (eds.), *Handbook of Emotions*, 2nd edn., Guilford Press, New York, pp. 173–191.

Cacioppo, J. T., Klein, D. J., Berntson, G. G., and Hatfield, E. (1993). The psychophysiology of emotion. In Lewis, M., and Haviland, J. M. (eds.), *Handbook of Emotions*, Guilford Press, New York, pp. 119–142.

Calderhead, J. (1996). Teachers: Beliefs and knowledge. In Berliner, D. C., and Calfee, R. C. (eds.), *Handbook of Educational Psychology*, Macmillan, New York, pp. 709–725.

Carstensen, L. L., Pasupathi, M., Mayr, U., and Nesselroade, J. R. (2000). Emotional experience in everyday life across the life span. *J. Personal. Social Psychol.* 79: 644–655.

Carter, K., and Doyle, W. (1996). Personal narrative and life history in learning to teach. In Sikula, J., Buttery, T. J., and Guyton, E. (eds.), *Handbook of Research on Teacher Education*, 2nd edn., Simon & Schuster, New York, pp. 120–142.

Clark, M. D. (1997). Teacher response to learning disability: A test of attributional principles. *J. Learn. Disabil.* 30: 69–79.

Clark, M. D., and Artiles, A. J. (2000). A cross-national study of teachers' attributional patterns. *J. Spec. Educ.* 34: 77–89.

Cobb, P., and Bowers, J. (1999). Cognitive and situated learning perspectives in theory and practice. *Educ. Researcher*, 28(2): 4–15.

Cochran-Smith, M. (1991). Reinventing student teaching. *J. Teacher Educ.* 42: 104–118.

Cole, M. (1996). *Cultural Psychology: A Once and Future Discipline,* Harvard University Press, Cambridge, MA.

Coleman, L. M., and Jussim, L. J. (1983, August). Perusing teacher expectations: A closer look at affect-attribution links. *Paper presented at the annual meeting of the American Psychological Association, Anaheim, CA*.

Comer, J. P., Ben-Avie, M., Haynes, N. M., and Joyner, E. T. (1999). *Child by Child: The Comer Process for Change in Education,*Teachers College Press, New York.

Csikszentmihalyi, M. (1990). *Flow: The Psychology of Optimal Experience,* HarperCollins, New York.

Darwin, C. (1998). *The Expression of the Emotions in Man and Animals*, 3rd edn., Oxford University Press, New York.

Derryberry, D., and Tucker, D. M. (1994). Motivating the focus of attention. In Niedenthal, P. M., and Kitayama, S. (eds.), *The Heart's Eye: Emotional Influences in Perception and Attention*, Academic Press, San Diego, CA, pp. 167–196.

Dimberg, U., Thunberg, M., and Elmehed, K. (2000). Unconscious facial reactions to emotional facial expressions. *Psychol. Sci.* 11: 86–89.

Educational Testing Service (1995). *Teacher Performance Assessments: A Comparative View,* Educational Testing Service, Princeton, NJ.

Ekman, P., Friesen, W. V., O'Sullivan, M., Chan, A., Diacoyanni-Tarlatzis, I., Heider, K., Krause, R., LeCompte, W. A., Pitcairn, T., Ricci-Bitti, P. E., Scherer, K., Tomita, M., and Tzavaras, A. (1987). Universals and cultural differences in the judgments of facial expressions of emotion. *J. Personal. Social Psychol.* 53: 12–717.

Elbaz, F. (1992). Hope, attentiveness, and caring for difference: The moral voice in teaching. *Teach. Teacher Educ.* 8: 421–432.

Elliott, S. (2001). American Educational Research Association 2002 annual meeting call for proposals. *Educ. Researcher,* 30(4): 26–38.
Ellsworth, P. C. (1994). Sense, culture and sensibility. In Kitayama, S., and Markus, H. R. (eds.), *Emotion and Culture: Empirical Studies of Mutual Influence,* American Psychological Association, Washington, DC, pp. 23–50.
Emmer, E. T. (1994a, April). Teacher emotions and classroom management. *Paper presented at the annual meeting of the American Educational Research Association, New Orleans, LA.*
Emmer, E. T. (1994b). Toward an understanding of the primacy of classroom management and discipline. *Teach. Educ.* 6: 65–69.
Emmer, E. T., and Stough, L. M. (2001). Classroom management: A critical part of educational psychology, with implications for teacher education. *Educ. Psychol.* 36: 103–112.
Epstein, S. (1993). Emotion and self-theory. In Lewis, M., and Haviland, J. M. (eds.), *Handbook of Emotions,* Guilford Press, New York, pp. 313–326.
Erb, C. S. (2002, May). The emotional whirlpool of beginning teachers' work. *Paper presented at the annual meeting of the Canadian Society of Studies in Education, Toronto, Canada.*
Eysenck, M. W., and Calco, M. G. (1992). Anxiety and performance: The processing efficiency theory. *Cogn. Emotion* 6: 409–434.
Fiedler, K. (2000). Toward an integrative account of affect and cognition using the BIAS computer algorithm. In Forgas, J. (ed.), *Feeling and Thinking: The Role of Affect in Social Cognition*, Cambridge University Press, New York, pp. 223–252.
Fisher, C. D. (2000). Mood and emotions while working: Missing pieces of job satisfaction? *J. Organ. Behav.* 21: 185–202.
Fisher, C. D., and Ashkanasy, N. M. (2000). The emerging role of emotions in work life: An introduction. *J. Organ. Behav.* 21: 123–129.
Ford, M. (1992). *Motivating Humans: Goals, Emotions, and Personal Agency Beliefs,* Sage, Newbury Park, CA.
Fredrickson, B. L. (2001). The role of positive emotions in positive psychology: The broaden-and-build theory of positive emotions. *Am. Psychol.* 56: 218–226.
Fredrickson, B. L., and Branigan, C. A. (2001). Positive emotions. In Mayne, T. J., and Bonnano, G. A. (eds.), *Emotions: Current Issues and Future Directions*, Guilford Press, New York, pp. 123–151.
Freiberg, H. J. (1999). Consistency management and cooperative discipline: From tourists to citizens in the classroom. In Freiberg, J. H. (ed.), *Beyond Behaviorism: Changing the Classroom Management Paradigm,* Allyn and Bacon, Boston, MA, pp. 75–97.
Frijda, N. H. (1986). *The Emotions,* Cambridge University Press, Cambridge, England.
Frijda, N. H. (2001). The self and emotions. In Bosma, H. A., and Kunnen, E. S. (eds.), *Identity and Emotion: Development Through Self-Organization,* Cambridge University Press, Cambridge, England, pp. 39–57.
Frijda, N. H., Markman, S., Sato, K., and Wiers, R. (1995). Emotions and emotion words. In Russell, J. A., Manstead, A. S. R., Wellenkemp, J. C., and Fernandez-Dols, J. M. (eds.), *Everyday Conceptions of Emotion. An Introduction to the Psychology, Anthropology and Linguistics of Emotion,* Kluwer, Dordrecht, Netherlands, pp. 121–143.
Grandey, A. A. (2000). Emotion regulation in the workplace: A new way to conceptualize emotional labor. *J. Occup. Health Psychol.* 5: 95–110.
Gardner, H. (1987). *The Mind's New Science,* Basic Books, New York.
Gathercoal, F. (1993). *Judicious Discipline,* 3rd edn., Caddo Gap Press, San Francisco.
Godar, J. (1990). *Teachers Talk,* Glenbridge Publishing, Macomb, IL.
Golby, M. (1996). Teachers' emotions: An illustrated discussion. *Cambridge J. Educ.* 26: 423–435.
Goldenberg, C. N. (1989). Making success a more common occurrence for children at risk of failure: Lessons from Hispanic first graders learning to read. In Allen, J., and Mason, J. M. (eds.), *Risk Makers, Risk Takers, Risk Breakers: Reducing the Risks for Young Literacy Learners*, Heinemann, Portsmouth, NH, pp. 48–79.
Goldstein, L. S. (1999). The relational zone: The role of caring relationships in the co-construction of mind. *Am. Educ. Res. J.* 36: 647–673.

Gottman, J. M. (1994). *What Predicts Divorce? The Relationship Between Marital Process and Marital Outcomes,* Erlbaum, Hillsdale, NJ.
Gottman, J. M., Katz, L. F., and Hooven, C. (1997). *Meta-Emotion: How Families Communicate Emotionally*, Erlbaum, Mahwah, NJ.
Graham, S. (1984). Communicating sympathy and anger to black and white children: The cognitive (attributional) consequences of affective cues. *J. Personal. Social Psychol.* 47: 40–54.
Graham, S. (1990). Communicating low ability in the classroom: Bad things good teachers sometimes do. In Graham, S., and Folker, V. S. (eds.), *Attribution Theory: Applications to Achievement, Mental Health, and Interpersonal Conflict*, Erlbaum, Hillsdale, NJ, pp. 17–52.
Gross, J. J. (1998). The emerging field of emotion regulation: An integrative review. *Rev. General Psychol.* 2: 271–299.
Gross, J. J., and John, O. P. (1995). Facets of emotional expressivity: Three self-report factors and their correlates. *Person. Individ. Diff.* 19: 555–568.
Hargreaves, A. (1998a). The emotional politics of teaching and teacher development: With implications for educational leadership. *Int. J. Leadersh. Educ.* 1: 315–336.
Hargreaves, A. (1998b). The emotional practice of teaching. *Teach. Teacher Educ.* 14: 835–854.
Hargreaves, A. (2000). Mixed emotions: Teachers' perceptions of their interactions with students. *Teach. Teacher Educ.* 16: 811–826.
Hargreaves, A., and Tucker, E. (1991). Teaching and guilt: Exploring the feelings of teaching. *Teach. Teacher Educ.* 7: 491–506.
Hatch, J. A. (1993). Passing along teacher beliefs: A good day is . . . *Educ. Horizons* 71: 109–112.
Healey, J., and Gould, G. (n.d.). Affective Jewelry and other Affective Accessories, Retrieved January 18, 2003, from the Affective Computing MIT media lab web site: http://affect.media.mit.edu/AC_research/projects/affective_jewelry.html
Hektner, J. M., and Csikszentmihalyi, M. (2002). The experience sampling method: Measuring the context and the content of lives. In Bechtel, R. B., and Churchman, A. (eds.), *Handbook of Environmental Psychology*, Wiley, New York, pp. 233–243.
Heuer, F., and Reisberg, D. (1992). Emotion, arousal and memory for detail. In Christianson, S. A. (ed.), *The Handbook of Emotion and Memory: Research and Theory*, Erlbaum, Hillsdale, NJ, pp. 151–180.
Higgins, K. M., and Moule, J. (2002, April). "No more Mr. Nice Guy": Preservice teachers' conflict with classroom management in an African American elementary school. *Paper presented at the annual meeting of the American Educational Research Association, New Orleans, LA.*
Huberman, M. (1993). Steps toward a developmental model of the teaching career. In Kremer-Hayon, L., Vonk, H. C., and Fessler, R. (eds.), *Teacher Professional Development: A Multiple Perspective Approach,* Swets & Zeitlinger, Amsterdam, pp. 93–118.
Isen, A. M. (1993). Positive affect and decision making. In Lewis, M., and Haviland, J. M. (eds.), *Handbook of Emotions*, Guilford Press, New York, pp. 261–277.
Isen, A. M., Niedenthal, P., and Cantor, N. (1992). An influence of positive affect on social categorization. *Motiv. Emotion* 16: 65–78.
Jackson, P. W. (1968). *Life in Classrooms*, Holt, Rinehart and Winston, New York.
Johnson, T., and Scherer, K. R. (2000). Vocal communication in emotion. In Lewis, M., and Haviland-Jones, J. M. (eds.), *Handbook of Emotions,* 2nd edn., Guilford Press, New York, pp. 220–235.
Jones, V. (1996). Classroom management. In Sikula, J., Buttery, T. J., and Guyton, E. (eds.), *Handbook of Research on Teacher Education,* 2nd edn., Simon and Schuster, New York, pp. 503–521.
Kaplan, A., Gheen, M., and Midgley, C. (2002). Classroom goal structure and student disruptive behavior. *Br. J. Educ. Psychol.* 72: 191–211.
Kaplan, A., and Maehr, M. L. (1999). Achievement goals and student well–being. *Contemp. Educ. Psychol.* 24: 330–358.
Kavanaugh, D. J., and Bower, G. H. (1985). Mood and self-efficacy: Impact of joy and sadness on perceived capabilities. *Cogn. Ther. Res.* 9: 507–525.

Kelchtermans, G. (1996). Teacher vulnerability: Understanding its moral and political roots. *Cambridge J. Educ.* 26: 307–324.
Keltner, D., and Ekman, P. (2000). Facial expression of emotion. In Lewis, M., and Haviland-Jones, J. M. (eds.), *Handbook of Emotions,* 2nd edn., Guilford Press, New York, pp. 236–249.
Keltner, D., Ellsworth, P. C., and Edwards, K. (1993). Beyond simple pessimism: Effects of sadness and anger on social perception. *J. Personal. Social Psychol.* 64:740–752.
Knapp, N. F., and Peterson, P. L. (1995). Teachers' interpretations of "CGI" after four years: Meanings and practices. *J. Res. Math. Educ.* 26: 40–65.
Kounin, J. S. (1977). *Discipline and Group Management in Classrooms,* Kreiger Publishing, Huntington, NY.
Kövecses, Z. (2000). *Metaphor and Emotion: Language, Culture, and Body in Human Feeling,* Cambridge University Press, New York.
Ladson-Billings, G. (1994). *The Dreamkeepers: Successful Teachers of African American Children*, Jossey Bass, San Francisco.
La Porte, E. (1996). Teaching: Getting it right. *Cambridge J. Educ.* 26: 361–366.
Labaree, D. F. (2000). On the nature of teaching and teacher education: Difficult practices that look easy. *J. Teacher Educ.* 51: 228–233.
Larson, R. W., and Almeida, D. M. (1999). Emotional transmission in the daily lives of families: A new paradigm for studying family processes. *J. Marriage Fam.* 61: 5–20.
Lasky, S. (2000). The cultural and emotional politics of teacher–parent interactions. *Teach. Teacher Educ.* 16: 843–860.
Lazarus, R. S. (1991). *Emotion and Adaptation*, Oxford University Press, New York.
LeDoux, J. (1996). *The Emotional Brain*, Simon & Schuster, New York.
Levenson, R. W., Carstensen, L. L., and Gottman, J. M. (1994). Influence of age and gender on affect, physiology and their interrelations: A study of long term marriages . *J. Personal. Social Psychol.* 67: 56–68.
Lewis, R. (2001). Classroom discipline and student responsibility: The students' view. *Teach. Teacher Educ.* 17: 307–319.
Lewis, M., and Haviland, J. M. (eds.). (1993). *Handbook of Emotions,* Guilford Press, New York.
Linnenbrink, E., and Pintrich, P. R. (2002). Achievement goal theory and affect: An asymmetrical bi-directional model. *Educ. Psychol.* 37: 69–78.
Little, J. W. (1996). The emotional contours and career trajectories of (disappointed) reform enthusiasts. *Cambridge J. Educ.* 26: 345–360.
Locke, E. A., and Latham, G. P. (1990). *A Theory of Goal Setting and Task Performance*, Prentice Hall, Englewood Cliffs, NJ.
Lortie, D. (1975). *Schoolteacher: A Sociological Study,* University of Chicago Press, Chicago.
Maehr, M. L., and Midgley, C. (1996). *Transforming School Cultures,* Westview Press, Boulder, CO.
Mayer, J. D., Salovey, P., and Caruso, D. (2000). Models of emotional intelligence. In Sternberg, R. J. (ed.), *Handbook of Intelligence*, Cambridge University Press, New York, pp. 396–420.
Mellers, B. A., and McGraw, A. P. (2001). Anticipated emotions as guides to choice. *Curr. Dire. Psycholog. Sci.* 10: 210–214.
Mesquita, B., and Ellsworth, P. C. (2001). The role of culture in appraisal. In Scherer, K. R., Schorr, A., and Johnson, T. (eds.), *Appraisal Processes in Emotion: Theory, Methods, Research*, Oxford University Press, New York, pp. 233–248.
Mesquita, B., Frijda, N. H., and Scherer, K. R. (1997). Culture and emotion. In Berry, J. W., Dasen, P. R., and Saraswathi, T. S. (eds.), *Handbook of Cross-Cultural Psychology: Vol 2. Basic Processes and Human Development*, Allyn and Bacon, Boston, pp. 255–297.
Meyer, D. K., and Turner, J. C. (2002). Discovering emotion in classroom motivation research. *Educ. Psychol.* 37: 107–114.
Mogg, K., and Bradley, B. P. (1999). Selective attention and anxiety: A cognitive-motivational perspective. In Dalgleish, T. and Power, M. (eds.), *Handbook of Cognition and Emotion*, Wiley, New York, pp. 145–170.

Mroczek, D. K. (2001). Age and emotion in adulthood. *Curr. Dir. Psycholog. Sci.* 10: 87–90.
Nias, J. (1989). *Primary Teachers Talking: A Study of Teaching as Work*, Routledge, London.
Nias, J. (1996). Thinking about feeling: The emotions of teaching. *Cambridge J. Educ.* 26: 293–306.
Oatley, K. (1992). *Best Laid Schemes: The Psychology of Emotions*, Cambridge University Press, New York.
Oatley, K., and Duncan, E. (1992). Incidents of emotion in daily life. In Strongman, K. T. (ed.), *International Review of Studies on Emotion, Vol. 2.*, Wiley, Chichester, New York, pp. 249–293.
Oatley, K., and Jenkins, J. M. (1996). *Understanding Emotions,* Blackwell, Cambridge, MA.
Parrott, W. G., and Spackman, M. P. (2000). Emotion and memory. In Lewis, M. and Haviland-Jones, J. M. (eds.), *Handbook of Emotions*, 2nd edn., Guilford Press, New York, pp. 476–490.
Patrick, H., Anderman, L. H., Ryan, A. M., Edelin, K. C., and Midgley, C. (2001). Teachers' communication of goal orientations in four fifth-grade classrooms. *Elemen. School J.* 102: 35–58.
Pekrun, R., Goetz, T., Titz, W., and Perry, R. P. (2002). Academic emotions in students' self-regulated learning and achievement: A program of qualitative and quantitative research. *Educ. Psychol.* 37: 91–106.
Perry, N. E., VandeKamp, K. O., Mercer, L. K., and Norby, C. J. (2002). Investigating teacher–student interactions that foster self-regulated learning. *Educ. Psychol.* 37: 5–15.
Phelan, P., Davidson, A. L., and Cao, H. T. (1992). Speaking up: Students' perspectives on school. *Phi Delta Kappan* 73: 695–704.
Pittam, J., and Scherer, K. R. (1993). Vocal expression and communication of emotion. In Lewis, M., and Haviland, J. M. (eds.), *Handbook of Emotions*, Guilford Press, New York, pp. 185–197.
Planalp, S. (1999). *Communicating Emotion: Social, Moral and Cultural Processes*, Cambridge University Press, New York.
Pollard, D. S., and Ajirotutu, C. S. (eds.). (2000). *African-Centered Schooling in Theory and Practice,* Bergin and Garvey, Westport, CT.
Putnam, R., and Borko, H. (2000). What do new views of knowledge and thinking have to say about research on teacher learning? *Educ. Researcher,* 29(1): 4–15.
Raudenbush, S. W., Rowan, B., and Cheong, Y. F. (1992). Contextual effects on the self-perceived efficacy of high school teachers. *Sociol. Educ.* 65: 150–167.
Reyna, C., and Weiner B. (2001). Justice and utility in the classroom: An attributional analysis of the goals of teachers' punishment and intervention strategies. *J. Educ. Psychol.* 93: 309–319.
Richardson, V. (1996). The role of attitudes and beliefs in learning to teach. In Sikula, J., Buttery, T. J., and Guyton, E. (eds.), *Handbook of Research on Teacher Education,* 2nd edn., Simon and Schuster, New York, pp. 102–119.
Richardson, V. (ed.). (2001). *Handbook of Research on Teaching,* 4th edn., American Educational Research Association, Washington, DC.
Rogoff, B. (1990). *Apprenticeship in Thinking: Cognitive Development in Social Context,* Oxford University Press, New York.
Roseman, I. J., and Smith, C. A. (2001). Appraisal theory: Overview, assumptions, varieties, controversies. In Scherer, K. R., Schorr, A., and Johnson, T. (eds.), *Appraisal Processes in Emotion: Theory, Methods, Research*, Oxford University Press, New York, pp. 3–19.
Ross, J. A., Cousins, J. B., and Gadalla, T. (1996). Within-teacher predictors of teacher efficacy. *Teach. Teacher Educ.* 12: 385–400.
Ruch, W. (1993). Exhilaration and humor. In Lewis, M., and Haviland, J. M. (eds.), *Handbook of Emotions*, Guilford Press, New York, pp. 605–616.
Ryan, R. M., and Deci, E. L. (2000). Self-determination theory and the facilitation of intrinsic motivation, social development, and well-being. *Am. Psychol.* 55: 68–78.
Scherer, K. R. (ed.). (1988). *Facets of Emotion: Recent Research,* Erlbaum, Hillsdale, NJ.
Scherer, K. R. (2001). The nature and study of appraisal: A review of the issues. In Scherer, K. R., Schorr, A., and Johnson, T. (eds.), *Appraisal Processes in Emotion: Theory, Methods, Research*, Oxford University Press, New York, pp. 369–391.

Schorr, A. (2001). Subjective measurement in appraisal research: Present state and future perspectives. In Scherer, K. R., Schorr, A., and Johnson, T. (eds.), *Appraisal Processes in Emotion: Theory, Methods, Research*, Oxford University Press, New York, pp. 331–349.
Schutz, P. A., and DeCuir, J. T. (2002). Inquiry on emotions in education. *Educ. Psychol.* 37: 125–134.
Shaver, P., Schwartz, J., Kirson, D. and O'Connor, C. (1987). Emotion knowledge: Further exploration of prototype approach. *J. Personal. Social Psychol.* 52: 1061–1086.
Sikula, J., Buttery, T. J., and Guyton, E. (eds.). (1996). *Handbook of Research on Teacher Education,* 2nd edn., Simon & Schuster, New York.
Skinner, E. A., and Belmont, M. J. (1993). Motivation in the classroom: Reciprocal effects of teachers' behavior and student engagement across the school year. *J. Educ. Psychol.* 85: 571–581.
Slavin, R. E., and Madden, N. A. (2000). *Success for All: Research and Reform in Elementary Education,* Erlbaum, Mahwah, NJ.
Suh, E., Deiner, E., Oishi, S., and Tirandis, H. C. (1998). The shifting basis of life satisfaction judgments across cultures: Emotions vs. norms. *J. Personal. Social Psychol.* 74: 482–493.
Sutton, R. E. (1999). Teachers' emotions: A pilot interview study, Unpublished raw data.
Sutton, R. E. (2000a, April). The emotional experiences of teachers. *Paper presented at the annual meeting of the American Educational Research Association, New Orleans, LA.*
Sutton, R. E. (2000b, November). Teachers' anger: What do we know? Why does it matter? *Paper presented at the New Zealand Association for Research in Education Conference, Hamilton, New Zealand.*
Sutton, R. E., and Conway, P. (2002, April). Middle school teachers' day-to-day experiences of anger and frustration. *Paper presented at the annual meeting of the American Educational Research Association, New Orleans, LA.*
Sutton, R. E., Conway, P., and Genovese, J. (2002, August). Work in the anger trenches: A diary study of teachers. *Poster session at the annual meeting of the American Psychological Association, Chicago, IL.*
Sutton, R. E., and Mudrey-Camino, R. (2003, August). The relationship among teachers' emotional intensity, emotional regulation, and self efficacy. *Paper prepared for poster session at the annual meeting of the American Psychology Association, Toronto, Canada.*
Thomas, J. A., and Montomery, P. (1998). On becoming a good teacher: Reflective practice with regard to children's voices. *J. Teacher Educ.* 49: 372–380.
Tice, D. M., Bratslavsky, E., and Baumeister, R. F. (2001). Emotional distress regulation takes precedence over impulse control: If you feel bad, do it! *J. Personal. Social Psychol.* 80: 53–67.
Tickle, L. (1991). New teachers and the emotions of learning teaching. *Cambridge J. Educ.* 21: 319–329.
Tsai, J. L., and Levenson, R. W. (1997). Cultural influences on emotional responding: Chinese American and European American dating couples during interpersonal conflict. *J. Cross Cultural Psychol.* 28: 600–625.
Tschannen-Moran, M., Woolfolk Hoy, A., and Hoy, W. (1998). Teacher efficacy: Its meaning and measure. *Rev. Educ. Res.* 68: 202–248.
Turner, J. C., Meyer, D. K., Midgley, C., and Patrick, H. (2003). Teacher discourse and sixth graders' reported affect and achievement behaviors in two high mastery/high performance mathematics classrooms. *Elemen. School J.* 103: 537–382.
Turner, J. C., Midgley, C., Meyer, D. K., Gheen, M., Anderman, E. M., Kang, Y., and Patrick, H. (2002). The classroom environment and students' reports of avoidance strategies in mathematics: A multimethod study. *J. Educ. Psychol.* 94: 88–106.
Turner, J. C., Thorpe, P. K., and Meyer, D. K. (1998). Students' reports of motivation and negative affect: A theoretical and empirical and empirical analysis. *J. Educ. Psychol.* 90: 758–771.
Waller, W. W. (1932). *Sociology of Teaching,* Wiley, New York.
Weiner, B. (2000). Intrapersonal and interpersonal theories of motivation from an attributional perspective. *Educ. Psychol. Rev.* 12(1): 1–14.

Weiner, B., Graham, S., and Reyna, C. (1997). An attributional examination of retributive versus utilitarian philosophies of punishment. *Social Justice Res.* 10: 431–452.
Wentzel, K. R. (1996). Social goals and social relationships as motivators of school adjustment. In Juvonen, J., and Wentzel, K. R. (eds.), *Social Motivation: Understanding Children's School Adjustment*, Cambridge University Press, New York, pp. 226–247.
Wheatley, K. F. (2000). Positive teacher efficacy as an obstacle to educational reform. *J. Res. Develop. Educ.* 34: 14–27.
Wong, C. A., and Dornbusch, S. M. (2000, April). Adolescent engagement in school and problem behaviors: The role of perceived teacher caring. *Paper presented at the annual meeting of the American Educational Research Association, New Orleans, LA*.
Wong, H. K., and Wong, R. T. (1998). *How To Be an Effective Teacher: The First Days of School,* Harry K. Wong Publications, Mountain View, CA.
Woods, P., and Jeffrey, B. (1996). *Teachable Moments: The Art of Teaching in Primary Schools*, Open University Press, Buckingham, England.